



# **U.S. Environmental Protection Agency's ENERGY STAR Program:**

## **Executive Update for Energy Efficiency Program Sponsors**

May 16, 2017



## Agenda

- ENERGY STAR Awareness, Understanding & Influence
- Products Update
- Residential Update
- Commercial & Industrial Update
- Grid-Side Energy Efficiency Opportunities

## ENERGY STAR Consumer Value

- More than **90%** consumer awareness
- **45% of U.S. households report purchasing** an ENERGY STAR certified product in the past year
- Nearly **75%** reported the label **as influential** in their purchasing decision
- **80%** of knowing purchasers reported that they are **likely to recommend** products that have earned the ENERGY STAR to friends
- Statistically, higher satisfaction with ENERGY STAR-certified light bulb
- Full report at [energystar.gov/awareness](http://energystar.gov/awareness)





## Interesting Findings from Non-Federal Sources

Precourt Energy Efficiency Center, *Experiments with Appliance Choice*:

- ENERGY STAR label increases the activity in the *nucleus accumbens*, part of the brain's "reward pathway" associated with positive emotions (as evaluated using Functional Magnetic Resonance Imaging or fMRI)
- Reward pathway activation while evaluating an appliance (e.g., CFL light bulb) positively predicts purchasing both with fMRI and in 1,550 person nationwide sample



## Interesting Findings from Non-Federal Sources

JD Powers 2016 Utility Products and Services Study as reported in AESP 2016 Magazine:

- Customers who participate in energy efficiency-oriented programs are **much more satisfied with their utility.**
- Overall Customer Satisfaction Index (CSI) for those who received a rebate for an **ENERGY STAR-certified appliance was 750** compared to average CSI of 663





# Products Updates



# ENERGY STAR Consumer Products

- **Lighting & Fans**
  - Decorative Light Strings
  - Light Bulbs (Lamps)
  - Light Fixtures (Luminaires)
- **Electronics**
  - Audio/Video
  - Slates/Tablets
  - Set-top and Cable Boxes
  - Televisions
- **Building Products**
  - Residential Windows, Doors, and Skylights
  - Roof Products
  - Seal and Insulate
- **Heating & Cooling**
  - Central Air Conditioners
  - *Boilers*
  - *Geothermal Heat Pumps*
  - Vent Fans
  - *Smart Thermostats*
  - *Furnaces*
  - *Dehumidifiers*
- **Water Heaters**
  - Heat Pump
  - High Efficiency Electric Storage
  - *High Efficiency Gas Storage*
  - Solar
  - *Whole Home Gas Tankless*



[www.energystar.gov/specifications](http://www.energystar.gov/specifications)

**Blue** indicates recent or upcoming spec change  
**Green** indicates revision planned/underway 2017  
*Italic* indicates with gas efficiency potential



# ENERGY STAR Consumer Products

- **Appliances**

- *Clothes Washers*
- *Clothes Dryers*
- Air Purifiers (Cleaners)
- Dehumidifiers
- Dishwashers
- Freezers
- Refrigerators

- **Office Equipment**

- Computers
- Displays
- Small Network Equipment
- Printers, Multi-function Devices



- **Other**

- Electric Vehicle Supply Equipment
- Pool Pumps
- Vending Machines
- Water Coolers



## New Products Under Development

- *Exterior & Interior Storm Panels*
- Home Energy Storage

**Blue** indicates recent or upcoming spec change  
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[www.energystar.gov/specifications](http://www.energystar.gov/specifications)

# ENERGY STAR Commercial Products

- **Lighting**

- Commercial Light Fixtures
- Light Bulbs (Lamps)
- Light Fixtures (Luminaires)

- **Office Equipment**

- Signage Displays
- VOIP Phones
- Computers
- Printers, Multi-function Devices



- **Heating & Cooling**

- *Light Commercial HVAC*
- *Commercial Boilers*

- **Water Heaters**

- *Commercial Gas Storage and Tankless*



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[www.energystar.gov/specifications](http://www.energystar.gov/specifications)



# ENERGY STAR Commercial Products

- **Commercial Appliances**

- *Commercial Clothes Washers*
- **Vending Machines**
- **Water Coolers**
- **Commercial Ice**
- **Commercial Refrigeration**
- **Commercial Coffee**
- *Commercial Dishwashers*
- *Hot Food Holding Cabinets*
- *Griddles*
- *Fryers*
- *Ovens*



- **Data Center Products**

- Data Center Storage
- **Enterprise Servers**
- **Large Network Equipment**
- **Uninterruptible Power Supply**



- **Other**

- Electric Vehicle Supply Equipment
- Laboratory Grade Refrigerators and Freezers

## New Products Under Development

- **Medical Imaging Equipment**

**Blue** indicates recent or upcoming spec change  
**Green** indicates revision planned/underway  
*Italic* indicates with gas efficiency potential

[www.energystar.gov/specifications](http://www.energystar.gov/specifications)



## New ENERGY STAR Products in 2017

- **Lab Grade Refrigeration:** First product certified by Thermo Fisher. adding scope for ultra low temperature freezers
- **Commercial Coffee Makers:** Batch commercial coffee brewers offer as much as 35% in energy savings and about \$100 per year compared to conventional models
- **Commercial Packaged Boilers:** offer end users as much as 15% in energy savings and about \$1,150 in energy cost savings/yr. when compared to non-condensing baseline models
- **Connected (Smart) Thermostats:** first to rely on analysis and aggregation of field data, rather than a laboratory test, to demonstrate energy savings. Average consumer will save more than 8% of their HVAC energy, or approximately \$50 annually



## ENERGY STAR & Connectivity

- ENERGY STAR **optional criteria** leverage the national platform that utilities can rely on and consumers look for, bringing together interested partners and stakeholders
- ENERGY STAR criteria provide consistent definitions and approaches, a **consistent** set of starter functionality, an emphasis on **open standards, test methods for DR functionality**
- ENERGY STAR is a trusted resource that can help consumers find these connected products and identify the benefits they offer

## ENERGY STAR “Smart” Thermostats – A Different Approach

- Estimate of energy savings developed from analysis and aggregation of data from customers’ homes
  - Inherently includes user interaction with the product, a key lack in previous efforts to recognize thermostats
  - The product is understood as hardware and service combined
  - The service provider will be the ENERGY STAR partner, because they have the data to demonstrate savings
  - Data analysis and aggregation is done by service providers using EPA-provided software, thus protecting privacy; CBs and EPA receive aggregated data only
- Completed December 2016
- **Seven certified models!** Manufacturers to date:
  - Nest, Ecobee, EcoFactor, Bryant, and Carrier





# ENERGY STAR Connected Criteria

	Smart Thermostats	Refrigerators & Freezers	Clothes Washers	Clothes Dryers	Room A/C	Dish-washers	Electric Vehicle supply equipment	Lighting	Pool Pumps	Commercial Ice Makers (draft)
Energy Consumption Reporting		✓	✓	✓	✓	✓		✓	✓	✓
Operational Status Reporting		✓	✓	✓	✓	✓		✓	✓	✓
Remote Management		✓	✓	✓	✓	✓		✓	✓	✓
Demand Response	✓	✓	✓	✓	✓	✓	✓		✓	✓
Open Access	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DR override by Consumers	✓	✓	✓	✓	✓	✓	✓		✓	✓
Connected Capability not Optional	✓									



# ENERGY STAR Most Efficient 2017 Categories

- Boilers
- Ceiling and Ventilating Fans
- CAC/ASHP
- Clothes Washers
- Computer Monitors
- Dishwashers
- **NEW: Dryers**
- Furnaces
- Geothermal Heat Pumps
- Refrigerator- Freezers
- Windows

*ENERGY STAR Most Efficient 2017 recognizes products that deliver cutting edge energy efficiency along with the latest in technological innovation.*

[www.energystar.gov/mostefficient](http://www.energystar.gov/mostefficient)



## **ENERGY STAR Best Value Finder: A New Tool Leveraging Price & Location Functionality**

- Goal: Make energy saving products and tips more accessible to low income or budget-constrained consumers
  - Highlight least cost, efficient options
  - Provide online and local options for researching and purchasing products
  - Provide buying tips and information about rebates
  - Offer simple ways to reduce energy consumption and save money

# ENERGY STAR Best Value Finder – Refrigerators

**ENERGY STAR Certified Refrigerators**

Refrigerator models that have earned the ENERGY STAR offer value because they save you money on your energy bills. Replace your old model with an ENERGY STAR one and save as much as \$50 a year. Models with the freezer on top tend to use the least energy (versus bottom freezers or side-by-side). Generally, the larger the refrigerator, the more energy it will use -- the most energy-efficient models are typically 15-20 cubic feet. Use the list below to find the best value in terms of purchase price.

Disclaimer

**Filter Your Results** Share Your Results

filter by keyword

**Type**

- Clear selections
- Top Freezer (268)
- Bottom Freezer (556)
- Side-by-Side (74)
- Freezerless and Single Door (35)
- Compact (739)

**Additional Features**

- Clear selections
- Thru the Door Dispenser (249)
- Automatic Defrost (1293)
- Connected (20)
- Ice Maker (609)
- Built-in (119)
- Counter Depth (402)

**Capacity (Total Volume) (ft<sup>3</sup>)**

- Clear selections
- Less than 7.5 (739)
- 7.5 - 12 (154)
- 12 - 15 (54)
- 15 - 18 (107)
- 18 - 21 (243)
- 21 - 24 (157)
- 24 - 27 (124)
- Greater than 27 (113)

**Height (in)**

- Less than 65 (882)
- 65 - 65.9 (55)
- 66 - 66.9 (51)
- 67 - 67.9 (39)
- 68 - 68.9 (69)

**Pricing is from a Sample of Retail Websites** Share Your Results

Sorted: lowest to highest price

**GE - GTE16DTH\*\*\*\*** Compare

Top Freezer | 15.6 cubic ft. | 428 (kWh/yr)

\$533.10 - \$619.00 View Product Details

**GE - GPE16DTH\*\*\*\*** Compare

Top Freezer | 15.6 cubic ft. | 428 (kWh/yr)

\$539.00 - \$649.00 View Product Details

**Frigidaire - FFHT1614Q\*** Compare

Top Freezer | 16.3 cubic ft. | 432 (kWh/yr)

\$551.10 - \$699.99 View Product Details

**GE - GTE16GTH\*\*\*\*** Compare

Top Freezer | 15.6 cubic ft. | 428 (kWh/yr)

\$566.00 - \$650.10 View Product Details

**Rebates in your zip code: 20003** CHANGE ZIP

Refrigerators (purchase) **\$50 - \$75** Valid: 10/01/2015 - 09/30/2016

Mail-in Rebate ?

DC Sustainable Energy Utility | 855-MY-DCSEU Visit website to learn more

**ENERGY STAR Certified Refrigerators : GE - GTE16DTH\*\*\*\***

GE  
GTE16DTH\*\*\*\*

**Description**

Type: Top Freezer

Defrost Type: Automatic

Compact: No

Built-in: No

Thru the Door Dispenser: No

Ice Maker: Yes

Counter Depth: No

Connected Functionality: No

Date Available On Market: 04/15/2014

Date Certified: 06/05/2014

Markets: United States, Canada

**Energy Use**

Annual Energy Use (kWh/yr): 428

US Federal Standard (kWh/yr): 468

**Size**

Height (in): 64.1

Width (in): 28.0

Capacity (Total Volume) (ft<sup>3</sup>): 15.6

**Additional Product Information**

No additional information provided

[Back to refrigerators results](#)

Clicking on the 'Go' link below will take you to web sites external to the energystar.gov domain. [EXIT](#)

**Find Online**

Retailer	Model	Status	Price	Action
Airport Home Appliances & Mattress	GTE16DTHWW White On White	Out of Stock	Unavailable	
AJ Madison	GTE16DTHWW White	Online Only	\$533.10	<a href="#">Go</a>
	GTE16DTH66	Online Only	\$533.10	<a href="#">Go</a>

[SHOW ALL](#)

**Find Local Retail Locations for 20003** CHANGE ZIP CODE

Best Buy  
1.3 miles

The Home Depot  
2.6 miles

Lowe's  
3.2 miles

hkgregg  
7.7 miles

In Stock at 3 stores

Best Buy  
Union Station - Washington D.C. - #3500  
1.3 miles

Best Buy  
Columbia Heights - #1092

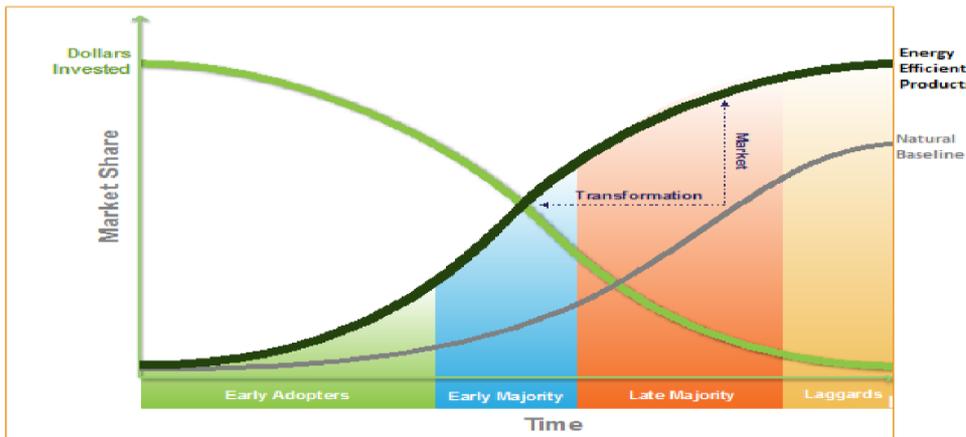


# Trend toward midstream program design for residential products

- More cost-effective compared to downstream rebates
- Utilities familiar with midstream approaches from lighting programs
- EPA talking with utility partners to understand and share best practices
- Candidate measures include HVAC, water heating, and windows

- **ENERGY STAR Retail Products Platform**

- Nationally coordinated midstream rebate program aimed to transform the consumer product market
- Implemented at +600 Best Buy, Home Depot and Sears store locations
- Receiving on-going full category sales data with 12 months historic sales data
- Largest appliance and CE manufacturers collaborating with ESRPP
- Implementation through retailers –allows all sales and savings to be captured, and reduces spend on administrative budgets
- Creates a genuine Market Transformation program, whereby EEPS are influencing retail stocking decisions

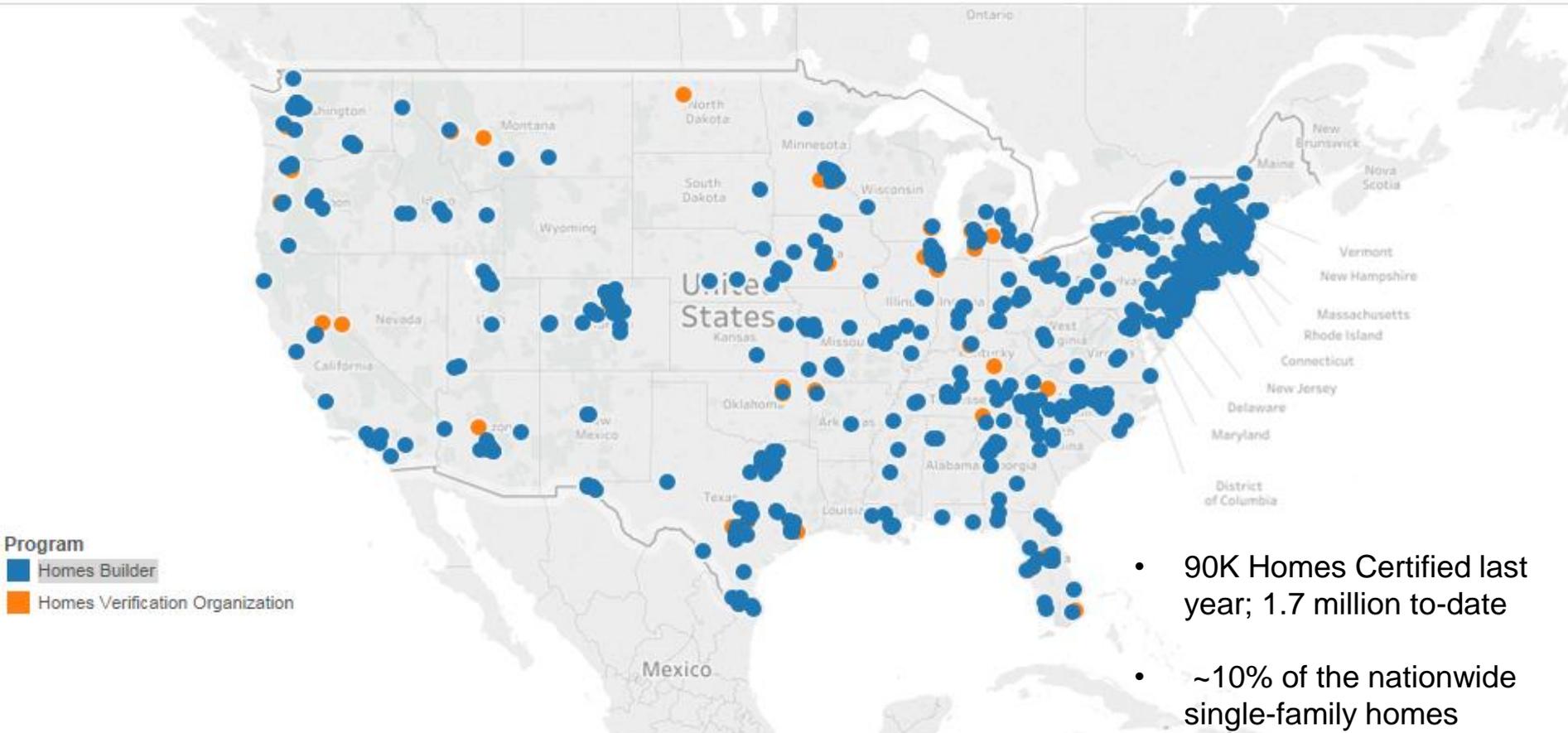




# Homes, HVAC, and Other Residential Opportunities



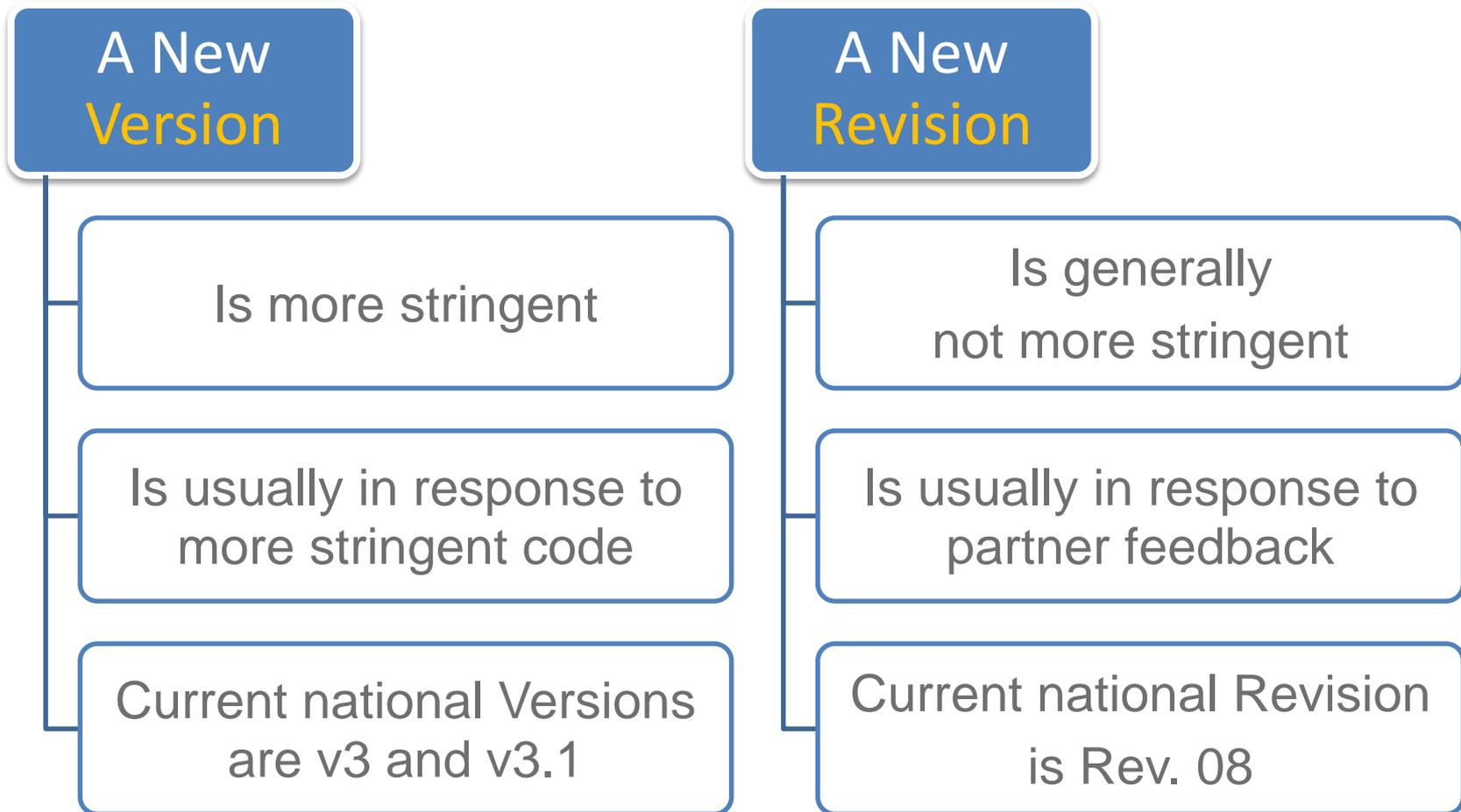
# ENERGY STAR Homes: ~ 650 New Partners in 2016!



- 90K Homes Certified last year; 1.7 million to-date
- ~10% of the nationwide single-family homes market share



# Versions vs. Revisions





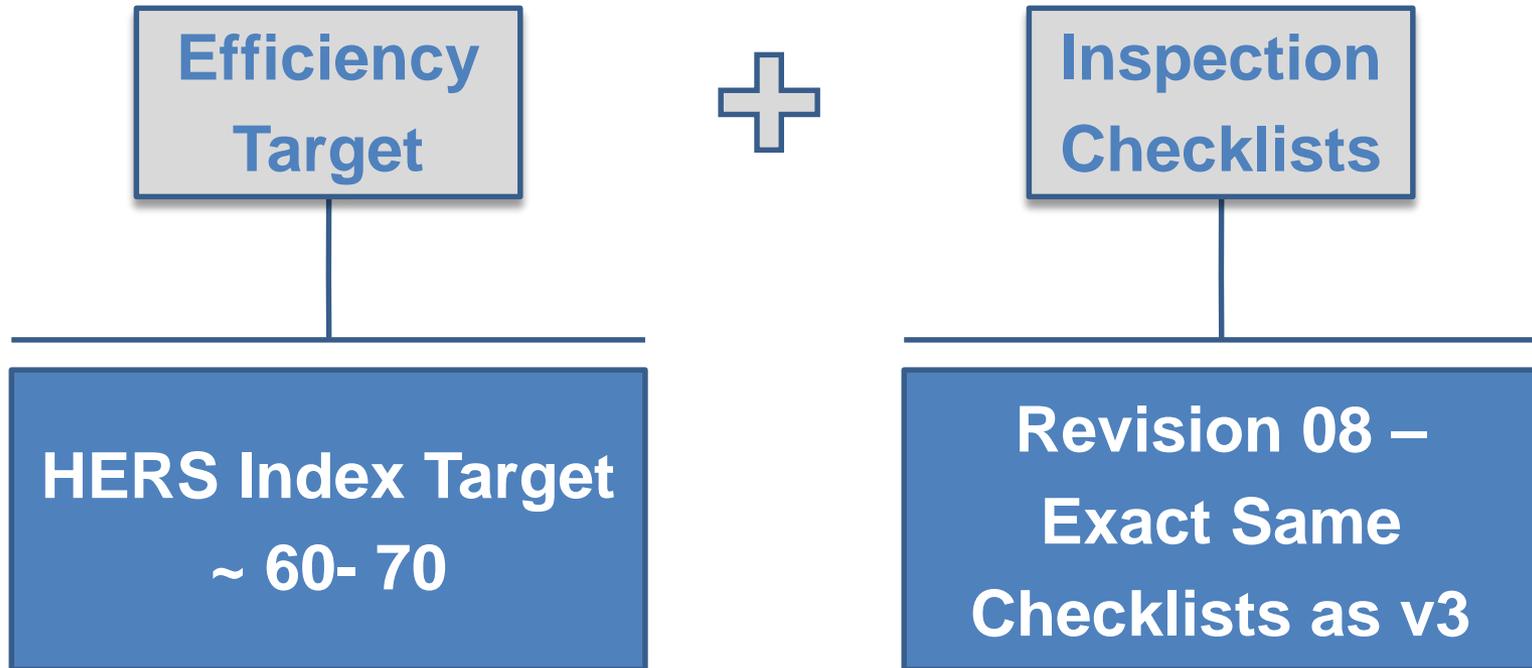
# Version 3



# Version 3.1



## What you need to know about Version 3.1





## What you need to know about Version 3.1

- No new mandatory measures in v3.1!
- To hit the lower HERS index target, you'll likely need to make incremental improvements to:
  - Infiltration,
  - Windows,
  - HVAC efficiency,
  - Lighting, and,
  - Either ducts in conditioned space or high-efficiency water heaters.



## What you need to know about Version 3.1

- There are now **17** states, plus DC, with an implementation date for v3.1, plus regional v3.1 requirements in CA & FL:

State	Applicable to Homes with the Following Permit Date
MA	On or after 01/01/2015
DC, IL, MD, RI	On or after 04/01/2015
IA	On or after 06/01/2015
DE	On or after 12/01/2015
MT, OR, WA	On or After 01/01/2016
MN, VT	On or after 04/01/2016
NV	On or after 10/01/2016
MI, NJ	On or after 04/01/2017
CT, NY, TX	On or after 10/01/2017



## Updated Cost & Savings Analysis

- The updated analyses have been posted on our [website](#).

### Cost & Savings Estimates

ENERGY STAR  
Certified Homes,  
Version 3 (Rev. 08)

October 1, 2016

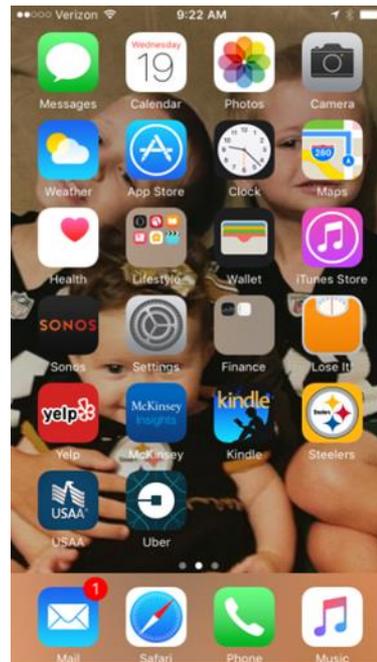
### Cost & Savings Estimates

ENERGY STAR  
Certified Homes,  
Version 3.1 (Rev. 08)

December 15, 2016



# ENERGY STAR<sup>®</sup> RaterPRO<sup>™</sup>





## Ample evidence that HVAC systems are not properly installed

- Improper airflow:
  - Average airflow 14% below design (Proctor 1997)
  - Improper airflow in 44% of systems (Mowris et al. 2004)
  - Measured airflow ranging from 130 - 510 CFM / ton (Parker 1997)
- Incorrect refrigerant charge:
  - In 57% of systems (Downey/Proctor 2002)
  - In 62% of systems (Proctor 2004)
  - In 72% of systems (Mowris et al. 2004)
  - In 82% of systems (Proctor 1997)



## Lessons Learned So Far on HVAC Commissioning

1. It deserves attention – it's important and has been overlooked for too long.
2. Builders are starting to understand the rationale and value for it.
3. Commissioning requirements easily verified by Raters have taken hold.

But:

4. The industry, as a whole, still needs a lot of support to deliver it.
5. Lack of uniform, practical, standards leads to conflict and confusion.
6. No credit in the HERS index is a significant obstacle.



## What's Next? HVAC Grading System Concept

- Follow the insulation quality-installation model:
  - Grade III:
    - The default. No verification is done.
    - No penalty and no credit.
  - Grade II:
    - Rater verifies key design and installation parameters.
    - Verification indicates that the system is good but not great.
    - Partial credit awarded.
  - Grade I:
    - Rater duplicates the tasks in Grade II.
    - But, the verification indicates that the system is great.
    - Full credit awarded.



## ENERGY STAR Residential Branch – Key 2017 Plans

### New Construction Programs:

- RaterPRO app
- Version 3/Revision 9
- Version 3.1 in new states as new codes are adopted (MI, NJ, CT, NY, TX)
- ENERGY STAR Homes Version 4 Framework Document
- New program requirements for Manufactured Housing
- “One Multifamily” specification for High-Rise/Low-Rise
- 2017 ES Homes Partner Meeting (October 23-25 Chicago, IL)



### Existing Homes/Building Products Programs:

- ENERGY STAR W/D/S Version 7 Framework Document; Draft 1 Criteria for Storm Windows
- Rule Your Attic! campaign
- Evaluate ENERGY STAR Verified Installation Pilot Programs

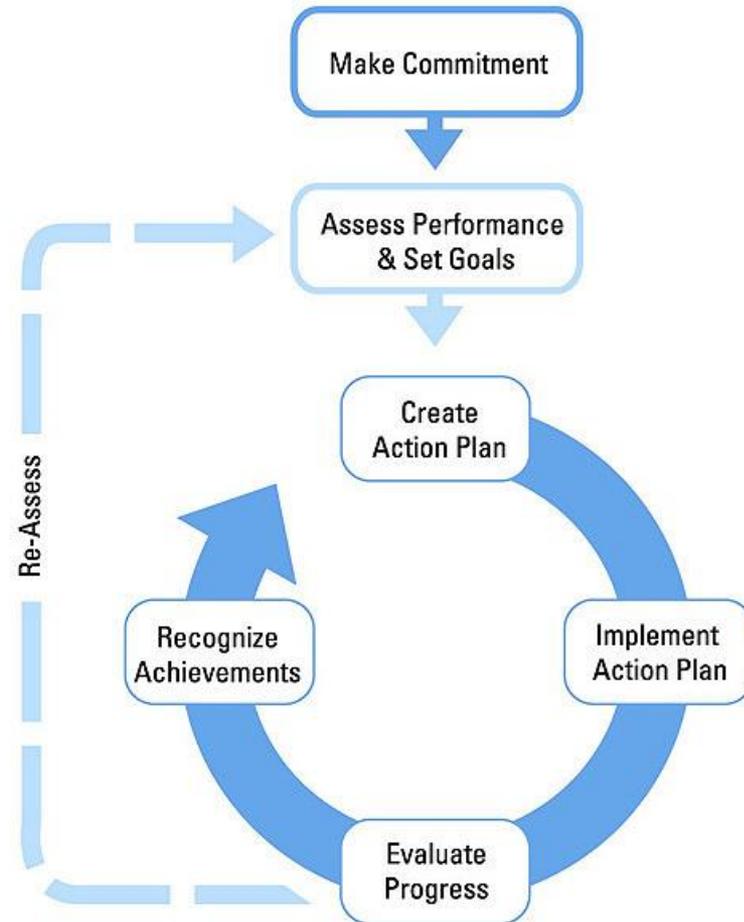




# Commercial & Industrial Updates

# Energy Management Guidance

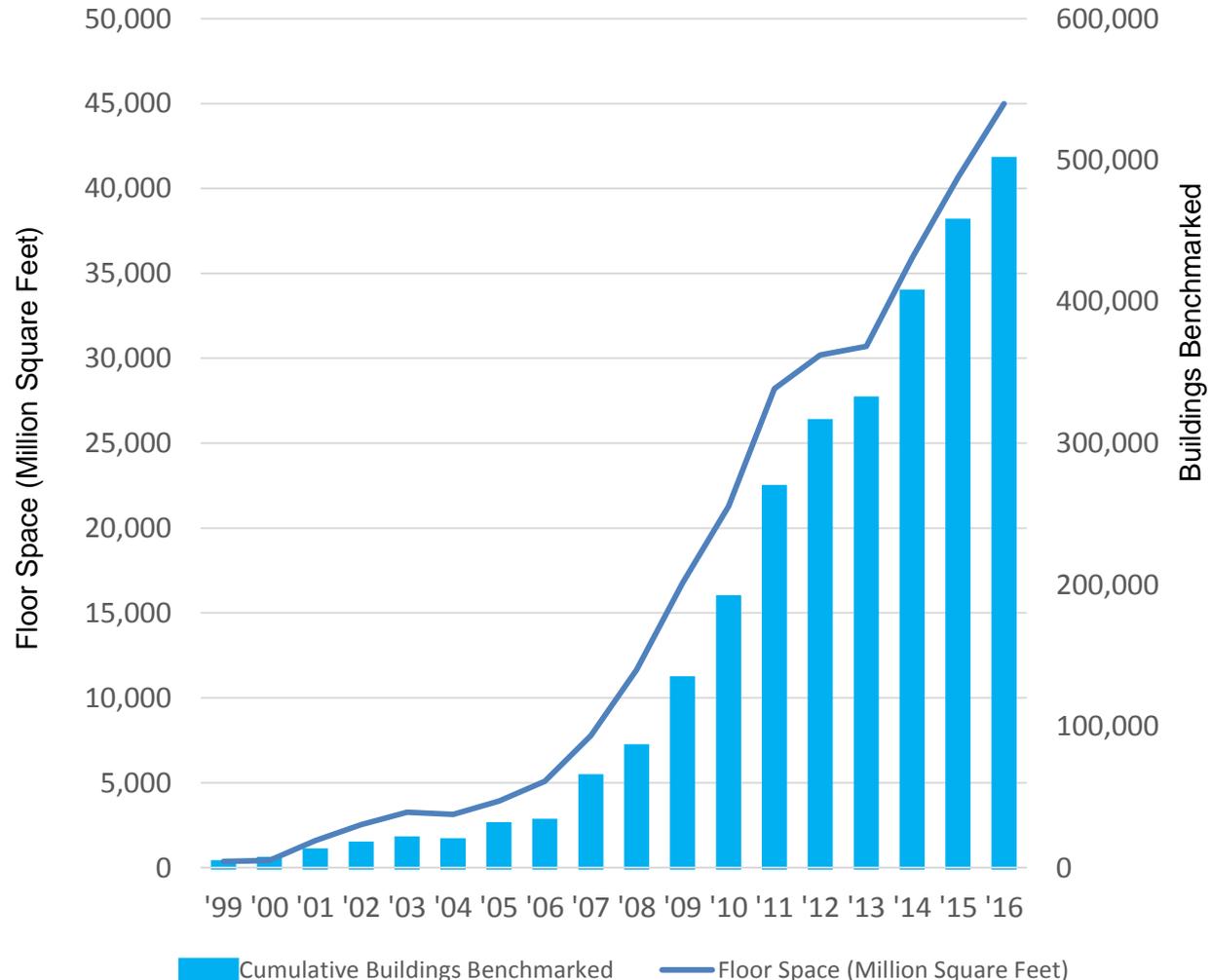
“ENERGY STAR Guidelines for Energy Management”





## Benchmarking with ENERGY STAR has Become the Industry Standard

- Over 6,400 C&I ENERGY STAR Partners
- Over 70,000 active portfolio manager accounts
- More than 500,000 buildings have been benchmarked in Portfolio Manager
- Over 30,300 properties are ENERGY STAR certified
- *Almost 50% of U.S. commercial building space has benchmarked in Portfolio Manager*





# Eligible to Receive an ENERGY STAR Score



Bank Branch



Barracks\*



Courthouses



Data Centers



Distribution Centers



Financial Offices



Hospitals



Hotels



K-12 Schools



Office Buildings



Medical Offices\*



Multifamily Housing



Residence Hall/Dormitory\*



Retail Stores



Senior Care Communities



Supermarkets



Warehouses



Wastewater Treatment Plants\*



Wholesale club/ Supercenters



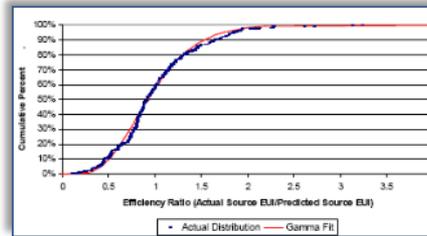
Worship Facilities

\*All building types -- except for barracks, medical offices, residence halls, and wastewater treatment plants -- can apply for the ENERGY STAR if they earn a score of 75 or higher. Additional details on eligibility available [here](#).

# Developing a 1 – 100 ENERGY STAR Score



Nationally representative survey

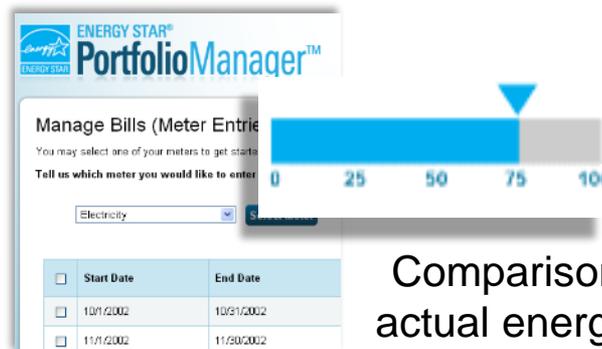


Data analysis

Descriptive Statistics for Variables in Final Regression Model				
Variable	Full Name	Mean	Minimum	Maximum
SrcEUI	Source Energy per Square Foot	198.4	19.62	1133
LNsqFt	Natural Log of Square foot	9.535	8.517	13.82
PCDen	Number of Computers per 1000 ft <sup>2</sup>	2.231	0.0273	11.11
LNWkHrs	Natural Log of Weekly Operating Hours	3.972	3.611	5.124
LNWkrDen	Natural Log of Number of Workers per 1000 ft <sup>2</sup>	0.5616	-3.882	2.651
HDDxPH	Heating Degree Days x Percent Heated	4411	0.0000	9277
CDDxPC	Cooling Degree Days x Percent Cooled	1157	0.0000	5204

None:  
 - Statistics are computed over the filtered data set (n=498 observations).  
 - Values are weighted by the CBEC5 variable ADJWTS.  
 - The mean values are used to center variables for the regression.

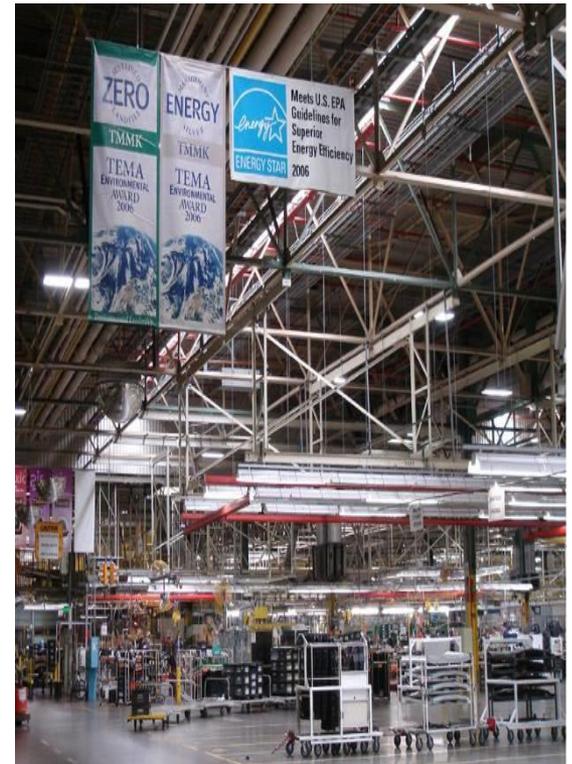
Statistical modeling



Comparison between actual energy data and the modeled estimate

## Industrial Focuses, Energy Performance Indicators, and the Challenge for Industry

- **Industrial Focus Areas:** Cooperation between EPA and manufactures to create sector-specific industrial energy management tools
- **Energy Performance Indicators (EPIs):** Measures relative energy intensity of manufacturing facilities 1-100 scale; 75 required to earn ENERGY STAR
- **ENERGY STAR Challenge for Industry:** A global call to action to reduce plant-level energy intensity by 10% within 5 years



# Industrial Plants with Benchmarks



**Aluminum Casting**



**Automobile Assembly**



**Cement Plants**



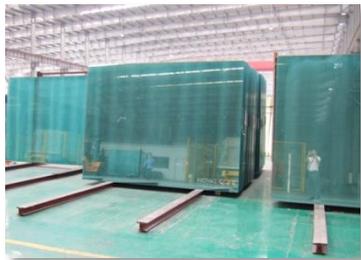
**Commercial Roll & Bread Bakery**



**Cookie & Cracker Bakeries**



**Container Glass Plants**



**Flat Glass Plants**



**Frozen Fried Potato Processing**



**Integrated Paper and Paperboard**



**Integrated Steel**



**Iron Casting**



**EPA Juice Plants**



**Petroleum Refineries**



**Pharmaceuticals**



**Pulp & Paper Mills**



**Wet Corn Mills**

# Customers Can Find Utilities that Provide Energy Data for Benchmarking

**FIND UTILITIES THAT PROVIDE ENERGY DATA FOR BENCHMARKING**

Click on the map or search to quickly determine if your utility provides the energy data you need to benchmark in ENERGY STAR® Portfolio Manager®

Please enter your zip code below to show coverage in your area:

98126

**Utility Name:** Puget Sound Energy  
**Fuel Type:** Electric, Gas  
**Data Type** ⓘ: Web Services  
**Aggregate Whole-Building Data** ⓘ: Yes(5)  
**Multifamily Included** ⓘ: Yes  
**Contact Info:**  
Email: [MyData@pse.com](mailto:MyData@pse.com)  
Web Address: Click [here](#) for more information.

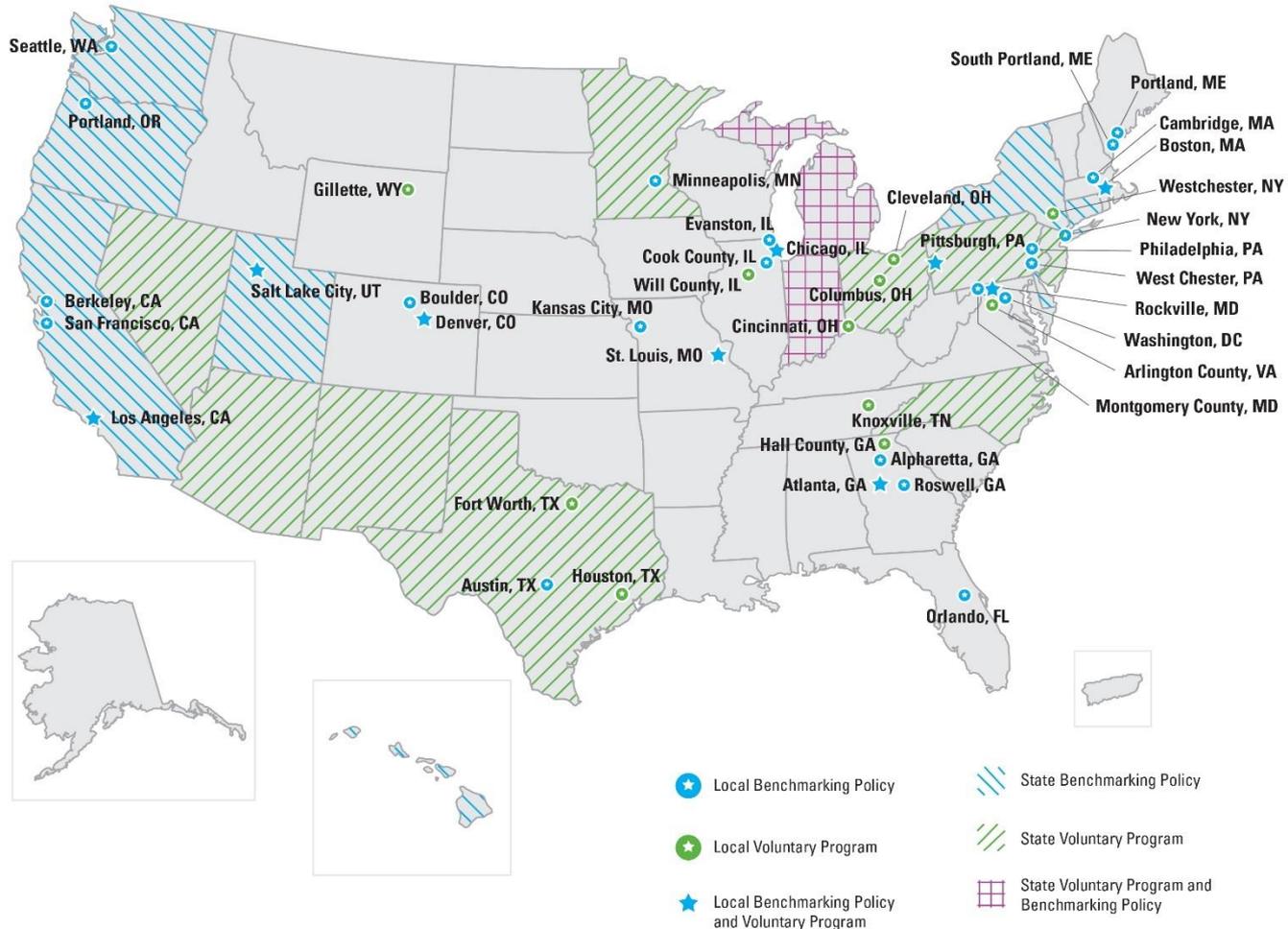
**Utility Name:** Seattle City Light  
**Fuel Type:** Electric  
**Data Type** ⓘ: Web Services  
**Aggregate Whole-Building Data** ⓘ: Yes(2)  
**Multifamily Included** ⓘ: Yes  
**Contact Info:**  
Email: [scl\\_portfolio\\_manager@seattle.gov](mailto:scl_portfolio_manager@seattle.gov)  
Web Address: Click [here](#) for more information.

Google

Utilities Providing Energy Data for Benchmarking in ENERGY STAR® Portfolio Manager®

Map data ©2016 Google Terms of Use

# Governments Leveraging ENERGY STAR

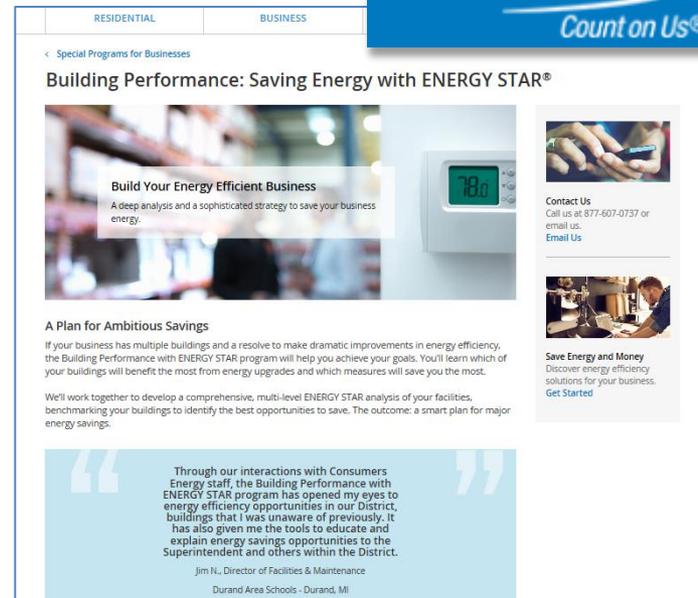


# A Comprehensive Approach for Key Customers

- Building Performance with ENERGY STAR can provide portfolio-wide savings opportunities with an efficient investment of time and incentive dollars



- Embodies the strategic approach of the EPA ENERGY STAR Guidelines for Energy Management
- Provides a framework for integrating strategic energy management; benchmarking; operations, behavioral and capital investment programs
- Supports strengthening relationships with commercial customers



The screenshot shows a webpage with a navigation bar for 'RESIDENTIAL' and 'BUSINESS'. The main heading is 'Building Performance: Saving Energy with ENERGY STAR®'. Below this, there are three main sections: 'Build Your Energy Efficient Business' (with a sub-heading 'A deep analysis and a sophisticated strategy to save your business energy.'), 'A Plan for Ambitious Savings' (with a sub-heading 'If your business has multiple buildings and a resolve to make dramatic improvements in energy efficiency, the Building Performance with ENERGY STAR program will help you achieve your goals. You'll learn which of your buildings will benefit the most from energy upgrades and which measures will save you the most.'), and 'Save Energy and Money' (with a sub-heading 'Discover energy efficiency solutions for your business. Get Started'). A testimonial from Jim N., Director of Facilities & Maintenance at Durand Area Schools, is featured at the bottom, stating: 'Through our interactions with Consumers Energy staff, the Building Performance with ENERGY STAR program has opened my eyes to energy efficiency opportunities in our District, buildings that I was unaware of previously. It has also given me the tools to educate and explain energy savings opportunities to the Superintendent and others within the District.'

# ENERGY STAR Tenant Spaces



- Tenants control energy use
- Recognition motivates change
- Capitalize on ENERGY STAR brand and certification

*Pilot launching in September, applications due July 15, 2017!*



# Grid-Side Energy Efficiency Opportunities



# Grid-Side Energy Efficiency Opportunities:

## Conservation Voltage Reduction/Volt Var Optimization

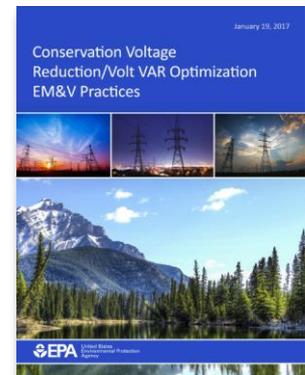
What it is: Delivering voltage to customers at the lower end of acceptable range to save energy in homes and buildings

- Savings  $\approx$ 1-4% depending on circuit (and customer end uses);  $\approx$ 90% on customer-side of meter
- Potential to target/prioritize low income communities for CVR/VVO operations (assuming other favorable conditions)

What we offer: New EM&V guide covering energy efficiency potential, data tracking considerations, impact analysis (including methods for estimating potential and impacts to low-income communities)

## ENERGY STAR Buying Guide to Energy Efficient Distribution Transformers... *coming soon*

- Defines meaningful efficiency above DOE standard
- Can reduce transformer losses  $\approx$ 11-29%
- Identifies circuit characteristics where cost effective



## ENERGY STAR Certified Electric Vehicle Charging Stations

- Covers 120 V and 208 to 240 V chargers
- Use  $\approx 40\%$  less energy in standby mode (typically in standby for 85% of product lifetime)
- Potential savings could grow to \$17 million per year
- Currently three certified models from Chargepoint



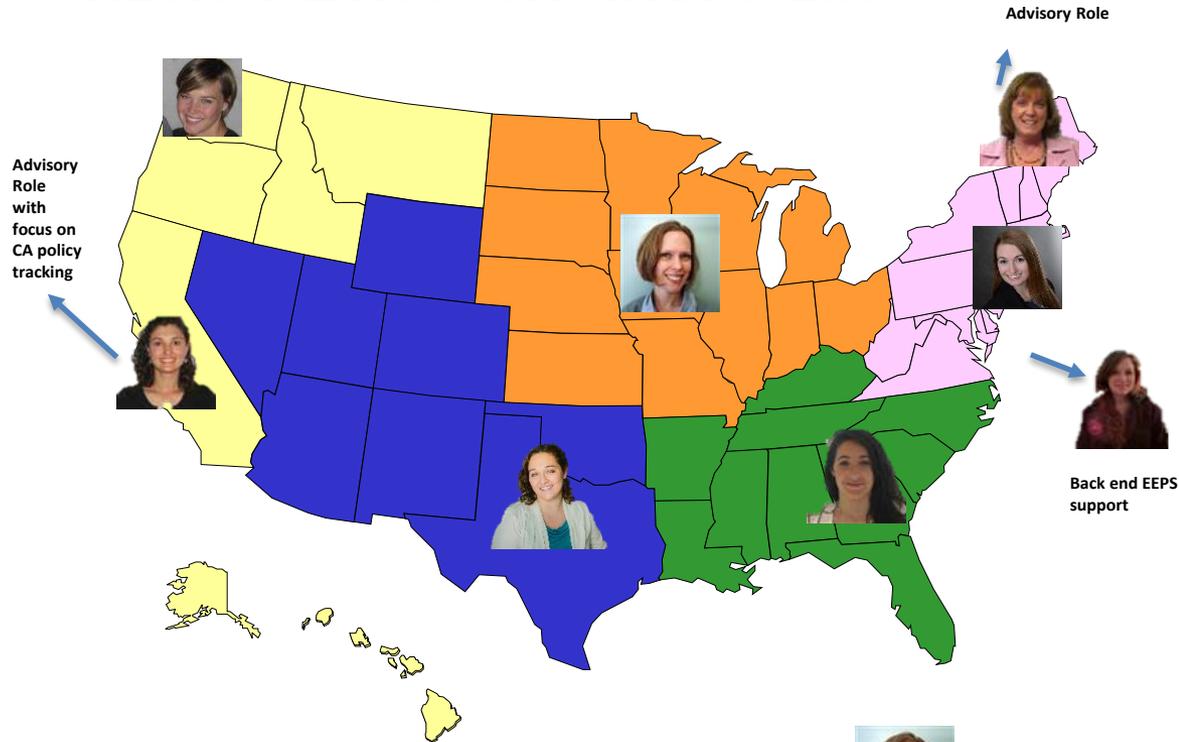


## Links for Additional Information

- Product specification criteria and updates: [www.energystar.gov/specifications](http://www.energystar.gov/specifications)
- ENERGY STAR Most Efficient: [www.energystar.gov/mostefficient](http://www.energystar.gov/mostefficient)
- ENERGY STAR Best Value Finder: <https://www.energystar.gov/best-value-finder>
- ENERGY STAR new homes partnership: [www.energystar.gov/newhomespartners](http://www.energystar.gov/newhomespartners)
- ENERGY STAR certified homes technical requirements:
  - Current: [www.energystar.gov/newhomesguidelines](http://www.energystar.gov/newhomesguidelines)
  - Version 3.1: [www.energystar.gov/index.cfm?c=bldrs\\_lenders\\_raters.nh\\_v3\\_1](http://www.energystar.gov/index.cfm?c=bldrs_lenders_raters.nh_v3_1)
  - HVAC design and commissioning: [www.energystar.gov/newhomesHVAC](http://www.energystar.gov/newhomesHVAC)
- ENERGY STAR certified homes training: [www.energystar.gov/newhomestraining](http://www.energystar.gov/newhomestraining)
- ENERGY STAR eligibility criteria for buildings and plants:  
<https://www.energystar.gov/buildings/facility-owners-and-managers/industrial-plants/measure-track-and-benchmark/energy-star-energy>
- Utility-offered benchmarking services through Portfolio Manager:  
[www.energystar.gov/utilitydata](http://www.energystar.gov/utilitydata)



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\* - Carly will be maintaining chief account management responsibility for MD and DE partners in 2017.  
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